INTRODUCTION

Commander Fleet Activities Sasebo (CFAS) is a small overseas naval installation located on the western coast of Kyushu Island in Nagasaki Prefecture, Japan. The installation serves as a logistic support center for forward deployed units and visiting operational forces of the U.S. Pacific Fleet and its tenant activities. CFAS is homeport to nine (9) U.S. Navy ships and consists of ten (10) non-contiguous areas totaling 1,238 acres, including:

- The primary administration, logistics, and support facilities
- One (1) dry dock
- Two (2) housing areas
- One (1) LCAC support and training area
- Two (2) ordnance facilities
- Three (3) POL depots

CFAS also controls approximately 6,480 acres of water assets including much of Sasebo Bay, India Basin, and the waters around the ordnance facilities.

The installation is spread throughout Sasebo, Japan, a port city of 285,000 inhabitants located on the island of Kyushu, about 600 miles southwest of Tokyo. The city is surrounded by mountains and is known as one of the best natural harbors in the world. Shipbuilding, light industry, fishing and farming are the principal sources of employment. The local population is supportive of CFAS; however, there are small groups who protest the U.S. presence for issues ranging from labor disputes, to sailor conduct, to visits by nuclear propulsion ships and submarines. CFAS community is approximately 6,800 active duty personnel, SOFA sponsored civilians, and dependents. The population varies during the year due to long deployments that displaces sailors from the community and by port calls from visiting ships that increase the impact on the community and its environment.

The non-contiguous nature of activities, the close integration of base facilities with the local community, joint activities with Japan Maritime Self Defense Forces (JMSDF), and independent tenant operations produce unique environmental coordination and compliance challenges. In spite of the great strain this has placed on limited resources, CFAS continues to provide exceptional environmental services to its 35 tenant commands, as well as the Sasebo community at large. CFAS has accomplished this while maintaining the strictest environmental standards and sponsoring new initiatives to make environmental programs even more effective.

BACKGROUND

Operating a military installation in a foreign country presents many formidable challenges. Failure to implement adequate steps to safeguard the host nation's environment could have disastrous geopolitical consequences. CFAS adheres to the strict standards of the Navy and U.S. Forces Japan, and also ensures that its operations and practices meet or exceed the requirements

of the Government of Japan (GOJ). This responsibility is occasionally complicated by language and culture barriers which can make communication of ideas and policies extremely challenging.

One of the unique challenges is nearly all of the installation's land areas are virtually surrounded by waters which are used for multiple types of Mariculture programs. Given CFAS has the Western Pacific's largest fuel reserves, potential catastrophic spills of fuel oil are a legitimate threat which requires innovative measures to ensure rapid and effective spill response.

Another environmental aspect that garners intense scrutiny by Sasebo's city counsel, and the public in general, is the disposal of solid waste. The Japanese recycling laws are some of the strictest in the world. As a result, CFAS uses creative recycling methods to intentionally exceed all parameters and metrics set forth by the host nation requirements. Senior management regularly meets with city and prefectural officials to convey our proactive approach to this issue and the dividends of our labor are evident in the positive feedback we receive from the local community during regularly scheduled offbase clean-up activities and open base events.

The Environmental Division (ENV) is divided into three branches, namely: compliance, conservation, and services. The Services Branch is broken down into hazardous waste disposal, recycling operations, and ashore and ship services. Using in-house resources, ENV updated the following plans during the achievement period:

- Stormwater Pollution Prevention Plan (Dec 2009)
- Hazardous Waste Accumulation Point (HWAP) Contingency Plan (Mar 2010)
- Hazardous Waste (HW) Management Plan (Jun 2010)
- Hazardous Materials (HM) Management Plan (Jan 2011)

The Integrated Solid Waste Management Plan (Dec 2009); Pollution Prevention Plan (Dec 2009); Asbestos Management Plan (Jun 2010); and Internal Assessment Plan (Dec 2010) were also updated using Environmental Program Requirement (EPR) funding which was programmed in prior POM submissions. All plan updates effectively integrate the base's Environmental Policy and Environmental Management System (EMS) program requirements.

The outreach of our EMS program into the community has fostered numerous venues of discussion with local government and prefectural offices which help maintain our lines of communication with our host nation partners. Collaboration with city educational institutions, the Prefectural Gaming and Agriculture Bureaus, and the Japan Ministry of Environment instill a bond of trust with our Japanese counterparts that we are truly acting on behalf of both countries to continually minimize our environmental impact; both on and off Navy properties. This climate of sustained environmental stewardship has been well received by our host nation.

SUMMARY

Our motto of "Continuous Improvement" resonates in the top tiers of management and is echoed throughout each and every member of the CFAS team. We continually strive to align mission

requirements with our environmental aspects by implementing a comprehensive outreach program which ensures all levels of our community are aware of their responsibilities and opportunities under the Environmental Management System.

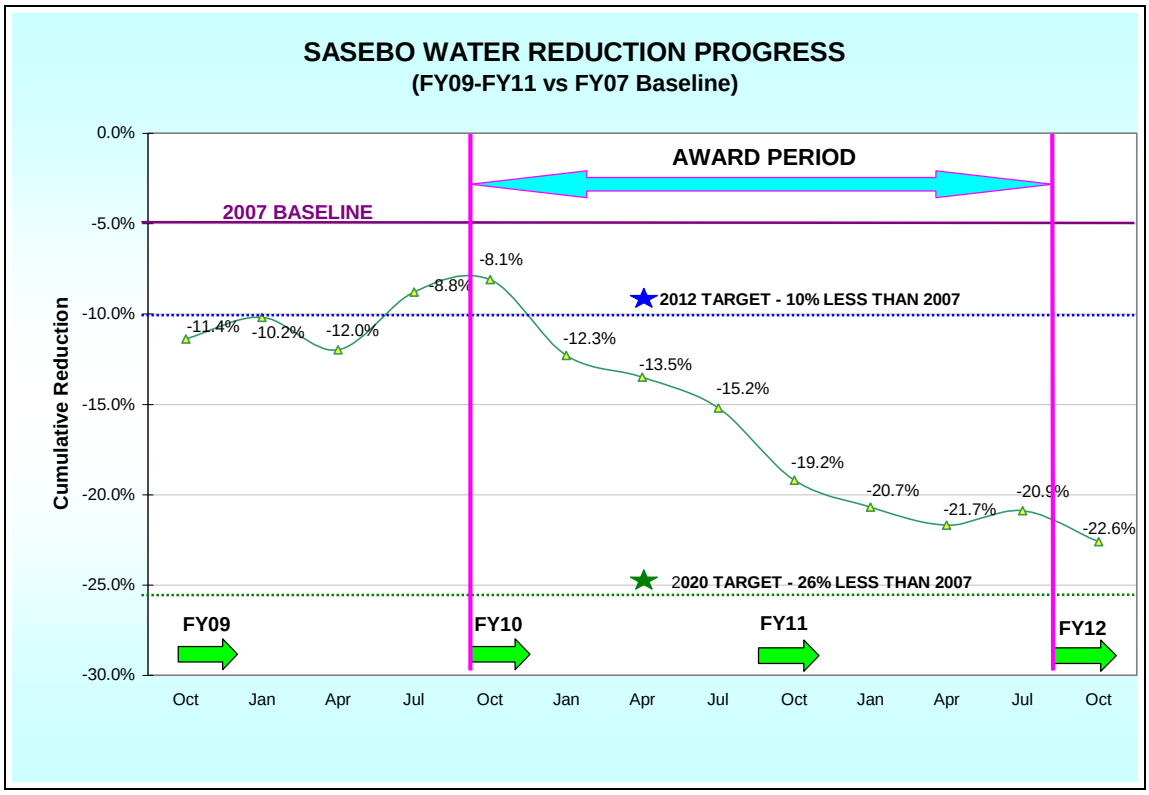
CFAS has fully implemented an installation wide EMS in FY10/11 and new Operational Controls (OC) are integrated into mission requirements to manage our Significant Environmental Aspects (SEA). They include, but are not limited to; reduction of solid waste, reduction of spills, water quality, conservation of water, and reducing the use of energy resources. Operational Controls to manage our SEA include:

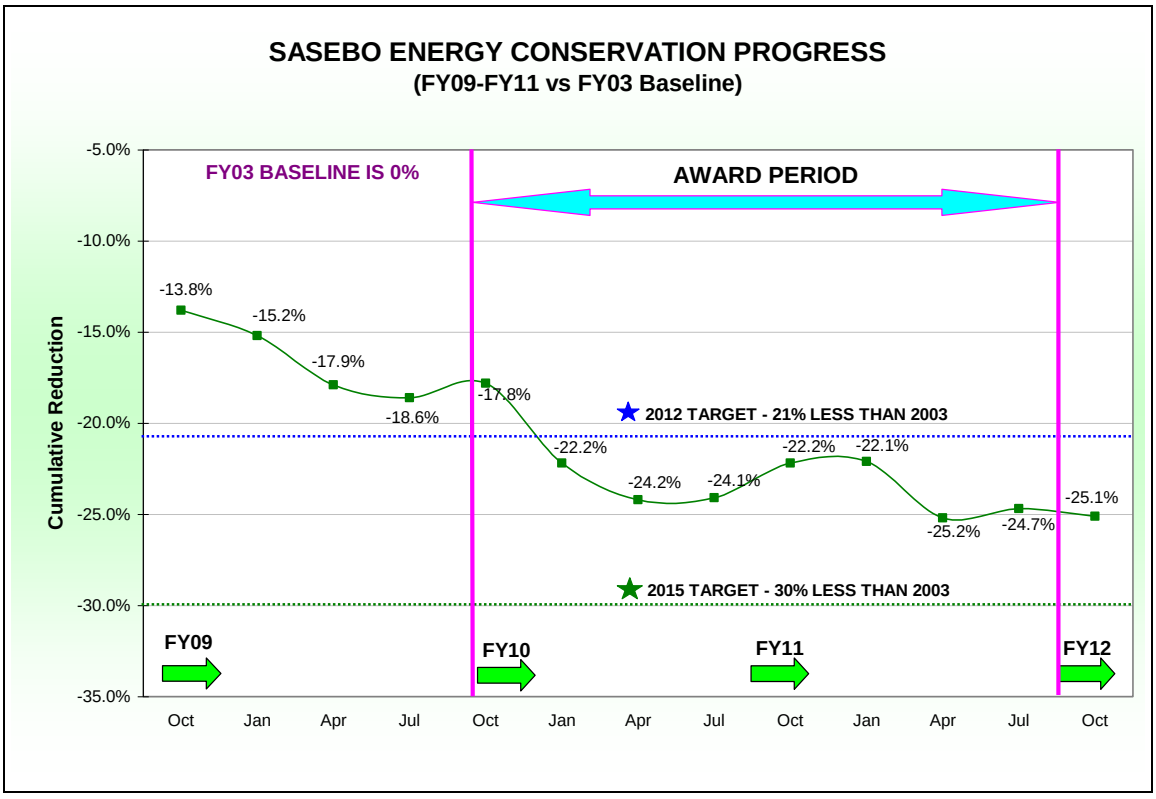
- Conducting regularly scheduled Environmental Protection Counsel (EPC) meetings.
- Maintain Cross Functional Teams (CFT) to develop and manage new OC for each SEA.
- Ensure all commands and departments actively participate in the EPC and CFT.
- Designed bilingual EMS awareness training for all base personnel and contractors.
- Provided spill response training to all personnel who conduct operations with high risk spill potential.
- Drafted and distributed environmental compliance manuals for all USS and USNS ships.
- Installed permanent recycling and bulk waste containers next to each dumpster.
- Purchased portable recycling containers for onbase and offbase events.
- Distributed EMS, recycling, and energy and water conservation public awareness literature to the CFAS community.
- Presented SEA information at weekly Area Coordination Meeting (ACM), indoctrination training, base schools, and community events.
- Installed Photovoltaic (PV) panels, energy efficient lighting, and solar window film.

The improvement of the EMS program, due to the new Operational Controls, is best measured by comparing the SEA metrics to a point in time when the controls were not in place. The graphics below illustrate the improvements CFAS has accomplished during the achievement period.

Fiscal Year Significant Environmental Aspect	**2009** (OC not in place)	**2010** (OC in place)	**2011** (OC in place)
EMS Awareness Training Completed by Base Personnel	8%	44%	87%
EMS Awareness Training Completed by Contractors	0%	17%	63%
Solid Waste Diversion Rate	41.3%	45.1%	47.7%
Total Solid Waste Generated (Tons)	6,300	4,438	4,213
Number of Spills (Land and Waterborne)	40	13	10

The design of bilingual environmental training and literature, and its availability to the general public through ECATTS, area orientation, base events, and movie theater preview presentations, has greatly increased the EMS awareness of both base and contractor personnel. Due to its outstanding success, the movie theater preview presentations, designed by CFAS, have been adopted by all installations in Commander, Navy Region Japan (CNRJ) area of responsibility.





Operational Controls have succeeded in reducing water and energy consumption below the 2012 target levels nearly two (2) years ahead of schedule.

It is a challenge to single out one or two areas of improvement because of the comprehensive nature of the EMS program. CFAS self-declared EMS conformance on August 27, 2009 and since its inception, the installation has seen outstanding progress toward achieving or exceeding its Objectives and Targets for multiple environmental aspects.

The number of spills has been slashed by 75%; water consumption has reduced dramatically; energy consumption is steadily trending down; our Solid Waste Diversion Rate is rising, generation of Solid Waste is cut by a third; and the base, even members of the local population, are educated about the installation's EMS program and how it benefits the community as a whole.

These improvements to operations not only significantly reduce the impact the base has on the environment, but it saves the Navy millions of dollars each year which allows CFAS to achieve its mission in a cost effective manner. The outstanding features of these efforts are outlined in the accomplishment section below.

ACCOMPLISHMENTS

Environmental Management System

CFAS has developed and implemented an innovative and extremely effective EMS framework, conformant with ISO 14001, to link all existing and new organizational programs and activities under its EMS continuous improvement model. Our approach means that CFAS's environmental management is a continual improvement process, not a project or operation which eventually terminates.

Community Outreach during Area Orientation Brief (AOB)

CFAS has targeted and invested in resources to educate its community about how each individual impacts the environment. An intense and ongoing media campaign promoting the EMS and environmental programs through base activities, television, radio, and websites serves to keep these issues firmly in the minds of all personnel. As part of the continual improvement model, CFAS implemented the Environmental Compliance Assessment, Training, and Tracking System (ECATTS). The ECATTS training modules address installation specific policies and practices, and environmental regulations of our host nation.

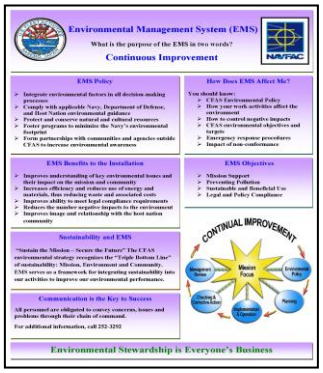
Environmental Objectives and Targets

Current environmental objectives are to reduce solid waste, increase recycling, reduce spills, increase water quality, and reduce energy and water consumption. Each organization, including tenant commands and contractors, are required to support the installation's Objectives and Targets (O&T) and provide ownership for daily operations that align with the sustainability of Executive Orders 13423 and 13514. ENV has worked with the base contracting offices to include EMS language in all new contracts and they revise existing contracts as options are renewed.

Wastewater Treatment Barges

One of the primary objectives of the Environmental Division (ENV) in FY10 was to eliminate the practice of ships discharging untreated wastewater into Sasebo Bay. Ashore infrastructure did not have the capability to process saltwater based wastewater from the ships. Using the EMS program, the Environmental Division, in conjunction with the EPC and CFT, established Objective & Targets that supported the mission of the installation; and consequently the Navy and DoD. A CFT evaluated the ship's wastewater discharge process and developed objectives to achieve the goal of zero discharge to Sasebo Bay. As a result, CFAS was able to award a contract that treats over 17 million gallons of ship generated wastewater each year. This not only helped CFAS achieve it target, but dramatically increased the water quality of Sasebo Bay while demonstrating to Sasebo City officials that CFAS is truly committed to being a good steward of the environment.

Sustainability Outreach



EMS fact sheet

Outreach is crucial to achieving sustainability goals. Community outreach programs have been developed to facilitate in-house education and off-base interaction with our host national neighbors. CFAS developed and implemented several initiatives to improve EMS awareness and promote environmental stewardship. Examples include:

- EMS and environmental media presentations shown during MWR movie previews at base theaters. This practice was praised by the regional Commanding Officer at NAVFAC and our presentation was distributed to all CNRJ installations for implementation.
- Developed bilingual EMS fact sheets and recycling guides for CFAS personnel without computer access.
- Conducted EMS awareness training at educational institutions.
- Provide EMS and ENV media training to newcomers via indoctrination orientation.
- Distribute drinking water quality information via the annual Consumer Confidence Report.

Compliance Assessment and Program Management

EMS conformance and environmental compliance are evaluated during annual internal and tri-annual external audits. Root cause analysis and corrective actions for each finding are addressed during quarterly EPC meetings. In FY10, CFAS reduced the number of deficiencies by 54% (53 to 29) from the previous external audit. There were six minor EMS non-conformance and no majors observed during the audit. All audit findings have since been closed. This is a significant accomplishment by any means, but especially noteworthy considering recent budget challenges.

Program Summary

The EMS program is changing the base's culture from a reactive and compliance approach towards a proactive integration of mission and sustainable environmental goals while educating the community and giving program "ownership" to each command, tenant, department, division, branch, and individual. The EPC and CFT ensure the EMS program support sustainable practices such as energy conservation projects and pollution prevention initiatives, and they establish measureable goals to improve and ensure continual improvement of all EMS operations.

Waste Reduction, Recycling, and Pollution Prevention

The Qualified Recycling Program (QRP) at CFAS is directly responsible for generating revenues over $1.32 million during the achievement period. On Nov. 14, 2011, CFAS learned from a memo issued by the Office of the Under Secretary of Defense that its revenues of $597,854 in FY10 accounted for 4.3% of the DoD's $14 million in recyclable revenue. For an encore, our revenues were $722,291 in FY11 - making CFAS one of the top-performing QRPs in the DoD.

During the achievement period, CFAS significantly reduced Solid and Hazardous Waste disposal costs, reduced procurement of Hazardous Materials, implemented Pollution Prevention programs, and recycled 14 profitable and 20 cost avoidance waste streams. Accomplishments include:

- Petroleum, Oils and Lubricants (POL) cost $4.22 per gallon to dispose of in Japan. CFAS recycled 755,000 gallons of waste oil, contaminated fuel, and the extracts of oily wastewater. Recycling verses disposal realized a Cost Avoidance (CA) of $3.19 million.
- Diverted 9,100 tons of Solid Waste (SW) from landfills and incinerators. Cost Avoidance was $1.1 million.

Mattress component of RPF

- Launched a program to recycle mattresses, plastic, wood pallets, textile, and scrap clothing. These materials are used to produce of Refuse, Paper, and Plastic Fuel (RPF). Recycled 1,420 tons and Cost Avoidance was $171,000.
- Converted five (5) tons of paint cans and oil drums from Hazardous Waste to scrap metal. CA was $16,000 and the scrap metal generates over $5,000 annually for the QRP.

- Recycled 107 tons of lead-acid batteries. QRP revenue was $52,033 and CA was $227,375.
- Placed recycling and bulk waste bins next to all dumpsters on base. Resulted in a 31% increase in recyclable materials from end of FY09.
- Created a Facebook page to educate the CFAS community on the recycling program.
- Started a reissue program of used furniture and kitchen items which resulted in over 200 tons of items being reused. Reduced SW disposal volume and disposal costs by $24,000.
- Added two (2) parts washers to make a total of nine (9) in service. This reduces annual hazardous material (solvent) usage by 6,000 gallons. Cost avoidance is $87,000 per year.
- Recycled three (3) barges. Diverted of 105 tons of SW and saved $42,900 in disposal costs.
- Enhanced community awareness of the recycling programs by designing and distributing home, office, and ship recycling guides.

Cooking oil to Bio-diesel fuel

- Recycled 16,342 gallons of cooking oil into bio-diesel fuel. Reduces cost of the Solid Waste contract by $53,000 each year and generates approximately $45,000 for the QRP. The program will be adopted by other CNRJ installations.

In summary, CFAS recycled 9,100 tons of material; realized a cost avoidance of $4.99 million and generated $1.32 million in revenue for the Navy.